NOAA05-R464

Contact: Ben Sherman
(301) 713-3066, Ext. 178

FOR IMMEDIATE RELEASE
July 19, 2005

NOAA SCIENTISTS ISSUE "DEAD ZONE" FORECAST

A team of scientists from the National Oceanic and Atmospheric Administration is forecasting that the "Dead Zone" off the coast of Louisiana and Texas this summer should be significantly smaller than the average size since 1990.

This summer's "Dead Zone" is predicted to be less than 1,400 square miles, an area the size of Rhode Island. The average annual hypoxia-affected area since 1990 has been approximately 4,900 square miles. The forecast is based on nutrient loads from the Mississippi and Atchafalaya rivers in May and June. The nutrient loads were lower than average this year, probably due to below average precipitation across much of the Mississippi River Basin. The nutrient data is provided by the U.S. Geological Survey. NOAA funds research cruises to track development of hypoxia. These have been conducted monthly since January and will be completed by the end of July.

"This prediction is an example of an innovative environmental service – known as 'ecological forecasting' – that we believe will become an important tool in coming years for both decision makers and the public," said Richard W. Spinrad, Ph.D., assistant administrator of NOAA's National Ocean Service. "Ecological Forecasting is a great example of NOAA's efforts to use an ecosystem-based management approach to protect and restore the use of coastal and ocean resources, which is one of the goals of the strategic plan."

The "Dead Zone" is an area in the Gulf of Mexico where seasonal oxygen levels drop too low to support most life in bottom and near-bottom waters. It is caused by a seasonal change where algal growth, stimulated by input of nutrients such as nitrogen and phosphorus from the Mississippi and Atchafalaya rivers, settles and decays in the bottom waters. The decaying algae consume oxygen faster than it can be replenished from the surface, leading to decreased levels of dissolved oxygen.

Research indicates that nearly tripling the nitrogen load into the gulf over the past 50 years has led to the heightened Gulf of Mexico hypoxia problem. The scientists say their research will improve assessments of hypoxic effects under various gulf coast oceanographic conditions. There are multiple models of the size of the hypoxic zone that are useful in evaluating the influence of nitrogen load and variations in ocean currents on the size of the "Dead Zone." These models do not always forecast similar results, and the reasons why are issues of ongoing research.

- more -

"Algal blooms that fuel the eventual summer hypoxia events were abundant this spring when the Mississippi River discharge peaked multiple times with a prolonged summer peak in June through early July," said Nancy Rabalais, Ph.D., chief scientist for hypoxia research at LUMCON. "The additional input of freshwater and nutrients in the summer contributed to further algal blooms and an intensification of stratification."

In 2003, the scientific team made the first advance forecast of the annual hypoxic event in the Gulf of Mexico. The model overpredicted the size of the hypoxia zone because a tropical storm had passed through the area before the forecast, reoxygenating the water. While the present models incorporate some physical factors, major events such as hurricanes are not part of the model, and whether or not the recent hurricane passing through the Gulf will also affect this years forecast is still uncertain. The present models focus primary on the role of nutrients, stratification, and decomposition to predict the size of the hypoxia zone, which was successfully predicted last year.

These research, observational, and modeling studies are part of a larger NOAA Center for Sponsored Coastal Ocean Research Center (CSCOR) effort to develop a fundamental understanding of the northern Gulf of Mexico ecosystem with a focus on the causes and effects of the hypoxic zone over the Louisiana continental shelf and the prediction of its future extent and impacts to ecologically and commercially important aquatic species.

NOAA's Ocean Service is dedicated to exploring, understanding, conserving and restoring the nation's coasts and oceans. It balances environmental protection with economic prosperity in fulfilling its mission of promoting safe navigation, supporting coastal communities, sustaining coastal habitats and mitigating coastal hazards.

The National Oceanic and Atmospheric Administration, an agency of the U.S. Commerce Department, is dedicated to enhancing economic security and national safety through the prediction and research of weather and climate-related events and providing environmental stewardship of our nation's coastal and marine resources. Through the emerging Global Earth Observation System of Systems (GEOSS), NOAA is working with our federal partners and nearly 60 countries to develop a global Earth observation network that is as integrated as the planet it observes, predicts and protects.

- 30 -

On the Web:
NOAA: http://www.noaa.gov/
NOAA's National Ocean Service: http://oceanservice.noaa.gov/
NOAA's Hypoxia Interactive Map:
http://www.ncddc.noaa.gov/website/Hypoxia/viewer.htm
Gulf of Mexico Hypoxia Watch Page: http://www.ncddc.noaa.gov/ecosystems/hypoxia